

Title: Research of organic layers for solar cells

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Abstract:

The main object of this project is to determine some parameters of polymer layers PPV (poly(p-phenylene vinylene)), which are important for usage of solar cells. We will do that by measuring spectra of surface photovoltage, from which we can get particular parameters of material by their fitting: such as exciton diffusion length, thickness of space charge region (SCR), surface recombination velocity of excited electrons. The dependence shows where material is inducing the highest current density.

Some measurements of organic materials enriched with nanoparticles will also take place. It is possible to find an approx. diameter of nanoparticles from spectral dependence of voltage.

Keywords: solar cell, diffusion length, nanoparticles, organic layer